National Institute of Environmental Health Sciences

Climate change and adaptation needs

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Abstract:

Observations confirm that climate is changing and it is projected to continue changing rapidly. Adaptation is needed to mitigate the projected adverse impacts of climate change, such as climate-change-related exposures which could affect the health status of many people. Climate projections for this century are available with a high spatial and time resolution. But they are afflicted with uncertainties because of the unknown future emissions of greenhouse gases as well as natural variability and the imperfect understanding of climate science and modelling. The evaluation of climate impacts further increases the uncertainty of the result. Is it justified to act on the basis of uncertain climate information? The results of climate models often differ slightly but they show robust and one-to-one trends in the future development. A quantitative or qualitative estimation of the probability of the climate projection facilitates the appraisal of the climate projection. In accordance with the precautionary principle, stakeholders should act in order to mitigate adverse effects of climate change even under the conditions of uncertainty for instance by using methods of risk assessment and risk management. The inclusion of uncertainties should be a part of this risk assessment process.

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Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

Special Report on Emissions Scenarios (SRES) Scenario: SRES A1, SRES A2, SRES B1, SRES B2

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Food/Water Security, Glacier/Snow Melt, Precipitation, Temperature

Extreme Weather Event: Drought, Hurricanes/Cyclones

Food/Water Quality: Other Water Quality Issue

Water Quality (other): Ocean acidity

Food/Water Security: Food Access/Distribution, Nutritional Quality

Temperature: Extreme Cold, Extreme Heat, Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : Germany

Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Infectious Disease, Morbidity/Mortality, Respiratory Effect

Infectious Disease: Foodborne/Waterborne Disease, Vectorborne Disease

Foodborne/Waterborne Disease: Other Diarrheal Disease

Vectorborne Disease: Fly-borne Disease, Mosquito-borne Disease, Tick-borne Disease

Fly-borne Disease: Leishmaniasis

Mosquito-borne Disease: Malaria, West Nile Virus

Tick-borne Disease: Lyme Disease, Tick-borne Encephalitis

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology:

type of model used or methodology development is a focus of resource

Cost/Economic, Exposure Change Prediction, Methodology

Resource Type:

format or standard characteristic of resource

Research Article, Review

Socioeconomic Scenario: SES scenarios

Timescale:

time period studied

Long-Term (>50 years)